maneuver enabled the testicle to lie easily in its scrotal bed. The abdominal wound was firmly closed down to the external ring and the cord was attached to the pillars of the ring in order to prevent retraction. The testicle itself was attached to the scrotal bed but not to the thigh. The recovery after operation was prompt and satisfactory. It is now five months since the operation and I have had the opportunity of seeing this man several times. The testicle has retracted to the upper limit of the scrotum, but seems content to remain in this position. It seems fairly well formed and is movable. The patient has gained weight and is cheerful. His sexual potency has returned in a marked degree and as he has no moral scruples against illicit indulgence he seems determined to make up for lost time in this regard. On several occasions he has brought me the sexual discharge in a condon and two or three times I have massaged his prostate and adnexa and have carefully searched all specimens for spermatozoa, but have never been able to find them.

I wish to mention but one point more. In operating it has been advised and generally practiced, to freely divide the spermatic vessels if they offer resistance to descent. The operation for varicocele teaches us that the vessels can be divided with impunity without sacrificing the organ, but in my judgment in the operation of orchidopexy, and especially if the operation is done early, every effort should be made to preserve all the circulation possible in order that the testicle may have a most abundant blood supply. Thus its normal growth will be fostered and a better developed testicle obtained.

INTENSIVE STRYCHNIN TREATMENT OF TRIFACIAL NEURALGIA.*

By THOS. J. ORBISON, M. D., Los Angeles.

INTRODUCTION.

It is a difficult matter to discuss any single type of nerve involvement without confusing the subject with the other types of involvement of that nerve, especially if the discussion involves a symptom complex of a nerve tract of such importance and extent as the fifth cranial or trigeminal nerve, being as it is the most important sensory nerve of the head. The subject of this paper is that one phase of trigeminal disease known as trifacial neuralgia.

The difficulty, therefore, is to avoid mistreating the subject in hand by allowing the whole subject of headaches in general to crowd out one of its smaller divisions.

I shall risk such danger by contrasting here the treatment of a few of the other types of trigeminal pain with that of true neuralgia of the trigeminus.

This is done advisedly and for the purpose of emphasizing two things: (a) that neuralgia of the fifth nerve may be treated along more or less routine lines, or specifically, so to say; whereas, (b) the other types must be treated individually and by methods differing in kind.

This paper contains the clinical records of five cases of trifacial neuralgia (one case being multiple neuritis plus trifacial neuralgia) in which the treatment consisted of strychnin exhibited in large or massive doses. The happy results and freedom from untoward complications recommend themselves to consideration. All of these cases contain a record of infection. This seems to the author to be the important indication for the exhibition of strychnin.

In contrast to these, and for the purpose of calling attention to the fact that strychnin is not held to be a specific in every painful condition of trifacial distribution, the author desires to cite five cases as examples of other and separate types of trifacial nerve pain in which rational therapeutics seemed to indicate different and differing methods of treatment, and in which the results have been likewise happy.

Of the latter five, one was of hyperemic headache secondary to ovarian dyscrasia and cured by appropriate surgical measures and organo-therapy; the second was a typical indurative headache that was speedily cured by the application of correct massage and moist heat to the indurations, together with internal administration of salophen and the iodides; the third was a combination of migrain with psychasthenia that was cured by the "training camp" method; the fourth, an incipient arteriosclerosis and fatigue neurosis, in which rest, hytrotherapy and thyroid extract were the curative measures; the fifth is a typical migrain associated with an unsuspected syphilis in which salvarsan is being exhibited because the presence of the latter was demonstrated by a positive Wassermann of the spinal fluid. This case is still under observation.

Record of Cases of True Trifacial Neuralgia.

Case I. Ref. by Dr. W. A. Edwards. R. G., N. Y. Aet. 52 years. M. Business man. Diagnosis: Supraorbital Neuralgia. F. H. Negative.

P. H. In robust health up to 20 years. Drank too much from twentieth to fortieth year. Grip at twenty-five years (he was sick in bed six weeks and lost forty pounds). After it, he developed psychasthenia and neurasthenia. Malaria at forty years. With this there was a nephritis. Six years ago, a diagnosis by competent physicians was gastritis, colitis and intestinal dyspepsia.

P. I. Seen first 12/16/12. Suffers with intense supra-orbital neuralgia. Morphia, aspirin, veronal and other drugs have no effect upon it.

Treatment: Confined to his room. Strychnin sulphate, gr. 1/30 hourly for four hours, a. m. and p. m., by mouth.

The day following, he was free from the severe pain. On the second day there was no pain. After that, for seven days more, he continued the treatment. Since then there has been no return of the neuralgia.

Case II. H. H. M. Aet. 72 years. M. No occupation. F. H. Negative.

P. H. During the Civil War, he was shot in the leg and developed sepsis. For a long time his life was in danger. He has had malaria and grip. His general health has been rugged. For many years he has had many attacks of intense trifacial neuralgia. These have had no periodicity. Most often the supra-orbital branch of the trifacial supplied the painful zone.

P. I. Seen June, 1912. He was in bed with his head wrapped in hot compresses, and in evident, intense pain. He said he had been suffering for three or four days.

Treatment: Strychnin gr. 1/40 hourly hypodermically for four hours a. m. and p. m. This was

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increased to gr. 1/20 on the third day. By the fourth day he was free from pain and remained so for six months. There was at that time a return of his usual pain. I saw him in this attack and began the strychnin on the seventh day of it. While under the effect of the drug his pain was controlled. It would recur daily, but with less severity. But by the end of ten days it had practically disappeared (more than one branch of the fifth involved). Three months have elapsed since his last attack.

Case III. Miss M. A. Aet. 32. Teacher. F. H. Negative.

P. H. She has been delicate from birth. Pneumonia at three months, followed by bronchial catarrh and dyspepsia, laid the foundation of a delicate childhood. Typhoid fever at eleven years was followed by trophic and sensory nerve disorders—her hair became stiff and fell out; she suffered with pains in the hip joints and sacro-iliac articulations; still later with leg pains.

She has had three attacks that were grip-like in character. Seven years ago she suffered with a skin disease that was associated with alimentary tract distress.

During the last few years she has been, for her, quite well. An interesting condition, in the light of her present complaint, was a tooth impaction (on both sides), with its severe, grinding pain in the left lower jaw for which a correction operation was performed five years ago. Two years ago there was a muco-purulent discharge from the post naso-pharynx.

P. I. She has had no headache in the last five years, until July, 1912, when she began to suffer with a grinding pain in the left upper jaw (similar to the pain of five years ago). This pain was localized in the left zygomatic region, and has always begun there ever since. Thence it will radiate to the eye, ear and lower jaw. It is a dull, heavy, grinding pain rather than a sharp, shooting pain. It has never been present in the daytime, except one day.

There have been three distinct attacks previous to the present: the first in July and August, the second in October and the third in November about a week previous to the present attack. All were associated, as to time, with the menstrual period (except the present). The first lasted ten days, the second eight days, and the third four days. The present attack began last night (November 22nd, 1912).

Treatment in this case promised to be unsatisfactory, because it was not expedient for this young woman to give up her school duties completely. But, because of her hearty co-operation, we were enabled to obtain excellent results in a reasonable time. She went directly home from school and to bed. She then took strychnin, gr. 1/40, hourly, by mouth, while awake. On Saturdays and Sundays and holidays this treatment was continued.

The result has been more satisfactory than was anticipated. The trifacial pain was at first controlled and then entirely disappeared.

Case IV. 5/2/12. Ref. by Dr. Soiland, of Los Angeles. E. E. B. Aet. 52 years. S. Solicitor. Diagnosis: Tic Douloureaux. F. H. Negative.

P. H. Has always been in robust health, except that he was treated so vigorously for a suspected syphilis that he developed mercurial poisoning. This happened in 1886.

P. I. Five years ago he had a painful spasm of the left side of his face. Electrical treatment, he said, relieved it. Three years ago there was a return of pain with spasm of the facial muscles on the left side. The pain was confined to the inferior maxillary distribution and has remained so. Ten months ago the pain again returned and has continued more or less constantly. Examination shows it to be a typical tic douleureux. During the pain, if any attempt is made to open the jaws the pain is excruciating.

The teeth have been examined for any possible etiology. The exhibition of morphin hypodermically gives no relief. Treatment by the alcohol injection method seemed to be indicated. A preliminary course of rest in bed, oil ricine ℥i a. m. and p. m., with strychnin sulphate, hypodermically, was instituted. Strychnin was exhibited in gr. 1/40, hourly doses, at first, for four hours in the morning and again a course of four hours in the afternoon. The dosage was rapidly increased until he was getting gr. 1/10 hourly, day and night, hypodermically. This was continued for ten days without untoward symptoms. Only once was the dose diminished for a few hours, because of slight muscular twitching.

The remarkable feature about this case was the unmistakable control of the pains in the face. But, inasmuch as it did not entirely arrest it, the injection of alcohol was made at a formal operation performed by Dr. A. S. Lobingier. The mandibular branch of the fifth cranial nerve was exposed by a window cut out of the lower jaw and injected with 70% alcohol, minims twenty. The seventh nerve was exposed at the same time and likewise injected. The results were instant arrest of the pain and facial spasm, with a temporary facial paresis. The latter cleared up completely and the pain did not return for nearly six months, and then only as an occasional symptom. At the present time, more than a year since the operation, he is having no pain or spasm.

Case V. Ref. by Dr. F. M. Pottenger. Mr. A. R. M. Aet. 61 years. M. Diagnosis: Polyneuritis, with trifacial neuralgia. F. H. No hereditary taint. Was married at 21 years. Patient has had nine children; two were still-born.

P. H. He denies venereal disease. At forty years of age he had typhoid and malaria. Since then he has never been as well as before.

P. I. For the last fifteen years, or longer, he has complained of pain in all parts of the body and head. It began in the little toe of the left foot. Then the upper leg on the same side. Later the other toe and leg were involved.

About this time, he had subjective girdle sensations. Still later the lumbar region, thorax and head have been implicated. At first, he had the so-called "felt foot" symptoms. There have never been gastric crises. There have at times been temporary blurred vision and some faintness.

The diagnosis of tabes was made by a number of prominent neurologists and internists in Chicago some years ago.

P. E. Examination of the blood and spinal fluid showed a strongly negative Wassermann (Brem & Zeiler).

Examination of the eyes showed normal fundi with reaction to light and in accommodation (no Argyle-Robertson pupils) (Dr. Mansur).

Reflexes. K. J. absent; B. J. present; no Babinski; station intact. Blood pressure 170 M. M. No objective disturbance of sensation.

Urine: Normal except for increase of indican. There is evident intestinal stasis.

Treatment: He was put to bed and his bowels kept active. Strychnin sulphate, gr. 1/40 hourly, for four hours, a. m. and p. m. exhibited. This was increased to gr. 1/20 and gr. 1/15 alternately. Quinine, gr. v, hourly, for three hours, was given by mouth at six, seven and eight o'clock p. m.

Previous to beginning this course, he had been taking morphine, gr. ¼ every day or two for some time. Since beginning it, he has had only three hypodermics of morphine, gr. 3/16. The whole character of his disease has thus changed within two weeks. What the future holds for him remains to be seen.

The treatment of trifacial neuralgia by intensive strychnin dosage is not new. Dercum of Philadel-

phia, Dana of New York, and others have advocated its use. The former encouraged the author to use it freely in suitable cases and under the right conditions, which is that of rest, preferably in bed, and with due regard to intestinal activity. This has been combined with quinin by the author in selected cases with good results.

The recent literature contains but meagre data concerning its manifest uses in trifacial neuralgia. Therefore it seems advisable to call attention to it at this time. Also, it seemed wise, in the beginning of this paper, to emphasize the fact that all cases of headache or trifacial irritation are not to be treated by any routine method; and that in selected cases (viz: true trifacial neuralgia) is strychnin in intensive dosage a rational therapeutic agent.

PELLAGRA.

By ANSTRUTHER DAVIDSON, M. D., Los Angeles.

I do not intend to enter into any discussion of the theories of causation, pathology or prevalence of Pellagra. These things have been already discussed and recorded in our journals and text books, by abler men of much experience. I wish but to record this case and add a mite of information on the probable causes we meet in California.

M. G., a carpenter, aged 74, complained of diarrhea of five or six years' duration, sometimes not very troublesome but always in some degree present. For the last few months the bowels moved four or five times a day and once or twice at night, the consequent weakness was his only complaint. Last year his hands, he said, "cracked, scaled and bled," once in the spring and again in the autumn. This year they had already scaled once (July, 1912). His hands presented a dark reddish appearance with a slightly raised well defined cuff border, the back of the fingers to the first phalanx was scaling in large plaques. The center of the dorsum showed paler, semicicatricial tissue, as if the scaling had been deeper in that locality. Knee reflex exaggerated, but no other symptoms referable to the nervous system, except marked irritability of temper. I prescribed for his diarrhea and saw him twice in the next ten days. As he did not appear the following week it was found, on inquiry, he had become suddenly much worse and died. He was born in the East but had lived in Los Angeles for about ten years. Unmarried, he lived alone, cooking his own meals, of which cornmeal mush was a daily feature. This case is undoubtedly one of pellagra and one of the comparatively few discovered in Southern California.

This disease has now been found in nearly all the states of the Union and in most European countries. The cause of pellagra has been attributed to the eating of diseased maize and lately by Sambon to infection by a Simulium.

As the disease in many respects resembles a toxic erythema in its appearance, it is not at all improbable that it is a cutaneous reaction from either a special food, or some special metabolic disturbance that is associated with some toxemia. This man, as we see, ate largely of corn, and corn even when not diseased, if much used, is prone to cause cutaneous irritation. The popular idea that corn is heating to the skin is correct, as its use in sufferers from urticaria and acne is prone to increase the inflammatory appearance. Oatmeal has the same tendency. Corn is not much used in the dietary of the people of California and if the cause of pellagra lies therein we may not expect many in this state. If the Simulidae are the source of infection we are well supplied with probable sources. California has at least six species of the genus, viz:

S. meridionale, Riley. Fresno.
S. venustum, Say. Fresno.
S. bracteatum, Coq. Los Angeles Co.
S. pictipes, Hagen. Los Angeles Co.
S. vittatum, Zett. Los Angeles Co.
S. virgatum, Coq. Los Angeles Co.

I have no acquaintance with the northern part of the state, but I presume the species are even more abundant there than in the south, as the conditions as regards moisture are more favorable to the propagation of the insects.

The most common species here, S. bracteatum, is a small dark fly popularly classed among the gnats as it bites somewhat severely. It is to be found around horses in all the mountain camps or near streams up to 8000 feet altitude in Southern California. They suck the blood from the flanks and inside of the ears of horses and donkeys. The latter especially suffer. Towards the end of the summer the inside of the ears are thickly spotted with blood-stained crusts where the insects have repeatedly fed. If all the Simulidae are capable of transmitting pellagra the disease ought to be fairly common, but in this genus, as in the Culicidae, it may be that only certain species are capable of conveying the infection. Simulium reptans, the species that Sambon seems to think is the communicator of pellagra, has not been found in California so far as I know. Much work must be undertaken before the true cause can be discovered, and it is possible that the Simulidae may be but the intermediate host in conveying the infection from horse or donkey to man.

ORTHOPEDIC TREATMENT OF SPINAL POLIOMYELITIS.

By JAMES T. WATKINS, M. D., San Francisco.

The present paper was delivered in abstract before the California State Medical Society at Del Monte in April, 1912. The time limit set made it necessary to confine its scope to a consideration only of the principles governing the operative side of treatment. Here in the full text other, and if anything more important features of treatment are also given consideration. Occasional repetitions appear in the text where facts were deemed sufficiently important to warrant reiteration.

(Continued from Page 377, September Journal, 1913.)

"'1. Do you consider tendon transplantation in properly selected cases a useful and satisfactory operation?'